

REMARKS

Claims 1-28 and 30-58 of prior application Ser. No. 10/212,973 filed August 6, 2002 have been canceled. Claim 29 of the '973 application should be canceled after this application is accorded a serial number and filing date; it was retained for purposes of copendency with the '973 application.

New Claims 59-83 are added by way of this Preliminary Amendment. The claims are numbered starting with Claim 59 which is the next highest number after the last claim in the prior application.

A. Support for Amendments to the Specifications

The amendments to pages 4, 29, and 30 refer to the monomers as “catechin” and “epicatechin” monomers since the term “procyanidin” is typically used to cover catechin and/or epicatechin oligomers. In addition at page 4, an optional blocking step has been added to cover preparation of both the (4→ 8) and (4→ 6) dimers. The dimer will have a 4→ 8 linkage when no blocking group is used; it will have a 4→ 6 linkage when a blocking group is used at the 8 position. See the discussion of Blocking Groups on page 39.

The text at page 5 has been amended to clarify that the process results in the preparation of a linear procyanidin oligomer having 4→ 8 linkages. In addition, the compounds formed during each step have been described, e.g., the dimers of steps (b) and (c) and the trimer of steps (d), (e), and (f). Specifically, the groups present on each mer of the dimers and trimers are recited. See the illustrative compounds at pages 6 to 17 where the protecting groups are represented by P, where the masking groups are represented by M, and where the blocking groups are represented by B. The sequence of steps that are repeated is set out in step (g).

At page 7 the text has been clarified by including a reference to the protected, masked linear trimer shown on page 9.

On pages 50, 52, and 53 the compound of Example 15 has been correctly named by adding "benzyl" after "Tetra-O-".

Minor errors have been corrected at pages 2, 8, 14, 18, 24-26, 29-30, 33, 41, 47 (?), 49, 57, and 60.

B. Support for New Claims

Support for Claims 59-73 may be found in Claims 30-58 of the prior application which were restricted out and ultimately canceled.

Canceled Claim 42 was directed to a process for preparing a partially protected dimer having a (4→8) linkage. Canceled Claim 43 was directed to a process for preparing a partially protected dimer having a (4→6) linkage. Both processes involve protecting, activating, and catalytic coupling steps which result in dimers where the top mer is protected. The processes differ in that the unprotected monomer has an 8-halo blocking group when the (4→6) linkage is desired. The steps of new Claim 59 are comparable to the steps of canceled Claims 42 and 43, except that the protecting groups are not identified and the unprotected monomer used in the coupling step optionally has an 8-halo blocking group. The use of protecting groups other than benzyl and p-methoxybenzyl is disclosed at page 32, lines 7-8.

New Claims 62 and 63 (particular protecting groups and particular solvents) are comparable to canceled Claims 44 and 45.

Support for new Claim 64 (using potassium carbonate or potassium iodide in the protecting step) may be found at page 31, lines 15-17.

New Claim 65 (solvents used in activating step) is comparable to canceled Claim 46.

New Claim 66 (lead salt/acid combinations) is comparable to canceled Claim 47.

New Claim 67 (Lewis acid catalysts) is comparable to canceled Claim 48.

New Claim 68 (process for preparing linear procyanidin (4→ 8) oligomers) is comparable to canceled Claim 52; however, the letters identifying the individual steps have been corrected.

New Claims 69 to 73 are comparable to canceled Claims 53 to 57. In Claim 70 the identification of the steps has been corrected so that the lettering starts with (e), not (h) as in canceled Claim 54.

Support for Claims 74-78 directed to an improved process for preparing benzyl-protected catechin and epicatechin monomers by reaction of the monomer with benzyl bromide in dimethyl acetamide may be found on page 22, lines 5-6 where it is disclosed that by carrying out the protecting step in dimethyl acetamide instead of dimethyl formamide, the protection of the phenolic hydroxyl groups is more readily controlled. See also page 31, lines 5-18 where benzyl protection is discussed, including the increased yield obtained when the aprotic organic solvent is changed from dimethyl formamide to dimethyl acetamide and the ready crystallization of the benzyl-protected monomers. Further, see Examples 1 and 2 where the preparation of tetra-O-benzyl-(+)-catechin and tetra-O-benzyl-(-)-epicatechin is shown. The use of potassium carbonate or potassium iodide in the preferred solvent system is disclosed at page 31, lines 15-17.

Support for new Claims 79-83 directed to a process for preparing a branched trimer may be found at page 37, lines 1-16 where the coupling of a partially protected dimer with a C-4 activated, protected monomer is discussed. See Examples 11 and 15 for the preparation of the partially protected dimers, i.e., tetra-O-benzyl-(+)-catechin-(4 α → 8)-(-)-epicatechin and tetra-O-benzyl-(-)-epicatechin-(4 β → 8)-(-)-epicatechin. See Examples 6 and 7 for the preparation of the C-4 activated, protected monomers, i.e., 4 β -acetoxy-tetra-O-benzyl-(+)-catechin and 4 β -acetoxy-tetra-O-benzyl-(-)-epicatechin. See Example 24 for the preparation of the protected tetra-O-benzyl-(+)-catechin-(4 α → 8)-(-)-epicatechin-(6→ 4 α)-tetra-O-benzyl-(+)-catechin. Deprotection of a dimer (not a trimer) is illustrated in Example 12.

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Continuation of 5677-183)

C. Closing

Entry of this Amendment is respectfully requested. No new matter is presented.

Respectfully submitted,

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